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Virginia Wildlife

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Virginia Wildlife

Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources and to the Betterment of Outdoor Recreation in Virginia

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COVER: One of our most plentiful and valuable fur-bearers, the mink is active in the water and can catch fish like an otter, but does much of its hunting on land like its smaller cousins, the weasels. Our artist: J. M. Roever, Cocoa Beach, Florida.

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EDITORIAL

Seen Any Wildlife Lately?

AT first it sounds like a simple-minded question, but in the context of today's problems, it's loaded. If you live in the country (which most Americans don't), chances are you can say, "Sure. Just this morning I saw . . ." and start naming animals. If you live in a model city or one of the better-planned suburbs, you may have seen a variety of birds, some squirrels, and maybe a raccoon or a hawk; or luckier yet, you may have unpolluted water nearby where you caught some fish last weekend.

Unfortunately, if you are like the average American, the place where you live has had too much "Progress" for any of this to be possible. Pigeons, sparrows, and rats are wild, after a fashion, but they are about all that's left in the polluted air and in and around the filthy water and miles of concrete most Americans call home. "Seen Any Wildlife Lately?" It's a good question, because *wildlife is a measure of the quality of man's environment.*

Who needs wildlife? In the sense that many wild creatures are a step ahead of us in their sensitivity to polluted air and water, chemical pesticides, and the absence of naturalness—in essence an *indicator of environmental quality*—we all need wildlife for our survival. For when these other creatures are gone, what's left is a squalid environment for us.

Americans are awakening to the dangers of their self-induced blanket of poisonous gases and garbage heaps, pesticide-infested surroundings, sewage-choked waters and the sterility of paved-over landscapes. We could have recognized the dangers sooner had we paid attention to the warning signals—that fewer birds were around as the air got foul, fewer squirrels as the greenery was paved over, and no trout, or bass as waters became open sewers.

Many places are so crowded with people, vehicles, and concrete that it would be silly to think raccoons or squirrels or deer could ever survive there again. But if we act soon enough, it is possible that destruction and contamination of our environment can eventually be controlled so that birds and fish may once again be abundant. Future highways, cities, jetports, and shopping centers can be planned and built without pollution, and with a diversity of trees and green spaces. We need all of these things and we need wildlife. The important thing is that we can have them, if we insist on it. Man's true progress will be measured by the ultimate good he has done for future generations. The abundance and variety of wildlife is one way of measuring it.

National Wildlife Week, March 15-21, sponsored by the National Wildlife Federation and, in Virginia, by its state affiliate, the Virginia Wildlife Federation, asks, "Seen Any Wildlife Lately?" The answers are vitally important, because abundant wildlife is more than a natonal heritage; it's an essential component of high quality environment for people.

LETTERS

A Day of Mourning—And Awakening

NEWS concerning our environment reaches our lives every day. Urban sprawl, water and air pollution, vanishing wildlife, and other issues are topics brought up not only among conservationists, but among all those who are deeply concerned with the immediate future in our lives. We have reached a point on our earth where survival of mankind will depend on our actions today, and not ten years hence. No longer must this country search only for solutions toward a quality environment. Unfortunately, there is no longer the leisure time to perform the latter task. Already the results of past ignorance and selffishness have started to show. People have died in one of our large cities due to an inversion layer of air settling over the city, keeping the smog in. How many will die or become ill in the future due to pesticide residues which have been building up in body tissues through the years? We have not yet begun to feel the results of what other forms of environmental pollution have done.

April 22 has been declared a National Environmental Day. It is, in my mind, a day of mourning. It is a day of looking back on a past America with the regret that all of us should feel. Clean rivers, open spaces, and other cherished environmental qualities are no longer available to many living in the urban areas of this country. The stench and destruction of giant megalopolises have taken their place.

The future, it may seem, is not bright. Believe me, it isn't—unless we also consider April 22 a day of awakening. The American people cannot and must not sit back and let others attempt to solve the outrages produced by the past. As Virginians, we have been blessed with many natural resources, still existing yet threatened by the misleading word called progress. Progress should not parallel the systematic destruction of an environment, as it has in the past. Rather, it should be concerned with the development of techniques to be used for the betterment of mankind. How can there be a question in anyone's mind that this should be our purpose in the future? If there is no clean air to breathe, what function will an automobile serve in life other than to exhale more fumes into the atmosphere?

I urge everyone to prepare for this day in the spring of 1970. Never before has the American public shown more concern for what is happening in the world around it. As sportsmen and enthusiasts of wildlife, readers of *Virginia Wildlife* should especially be involved with this day. Solutions to our environmental problems are existent, but the motivation to work on them has only begun to appear. We elect individuals to office and than never let our feelings be known. A letter to one of these officials is extremely effective, and would be a beginning toward such solutions.

Wake up, Virginians. It's your life.

John D. Gavitt
Dept. of Forestry & Wildlife
V.P.I., Blacksburg

Trout Fishing in My Blood

By OZZIE WORLEY
Roanoke

USED to be that 20—make it five—years ago I lost a lot of sleep the last part of March through the first of April.

I wind up with closer to eight hours sleep a night, although not much more, during this same period now. It's the countdown before trout season opens.

My loss of shuteye has nothing whatsoever to do with the income tax deadline. I must concede, however, that the thought of winding up with zeros on the opening of the trout season would be disconcerting.

Over the years, my concern about "catching" trout has diminished, although the thrill of "going" has not. And I've come to the conclusion that the "going" is what real trout fishing is all about, anyway.

It's the fragrance that originates from the pine trees. It's the chorus of frogs in oozy ponds left by melting snows. It's the birds giving their special salute to spring. It's the crisp early spring mornings that often won't admit that winter's over. It's the redbuds and the dogwoods with their pregnant buds ready to pop into full glory.

Trout fishing has undergone a remarkable metamorphosis since the days when I was a lad learning the ropes. Back then you had mile upon mile of trout water all to yourself.

The daily limit was 20 a day, compared to 8 now. Despite this, the supply of trout did not plummet to zero after the first week of the season, as it does today. The difference is *PEOPLE*. There simply weren't many enamored with the creeks and the woods and the trout in the old days.

If you lived within reasonable distance of good trout streams, as I did, you had it made.

Now, with 100,000 licensed Virginia trout fishermen, plus an equal number who fish but aren't required to have licenses, a great deal has changed.

Native brook trout used to be the bread and butter fish. But there are no longer enough natives to supply the demand. They wouldn't survive long in some of our present borderline trout waters even if they were present.

Regular and "artificial"—if you please—stockings by state and federal agencies must be made to satisfy the hordes of anglers who trek to the streams nowadays. To a degree, the stocking programs have succeeded. You are promised the availability of SOME trout, for awhile, in many streams, some of which never had trout before.

If you are patient and look long enough, you can still find a few small creeks back in the mountains that contain natives. But such places are fading as more trees are harvested, more subdivisions are being built, and more roads are carved through even the deepest woods. The natives simply cannot stand too much civilization.

It was my introduction to natives that led to my becoming a trout-fishing addict. And I've been hooked a long while.

On that first outing I was a boy of 10 or 12. My offering to the fish wasn't as sophisticated as it would be today. I picked up a gob of plain, old fishing worms from beneath a damp wooden plank in our back yard. I carried them in a used pipe tobacco tin—the likes of which you rarely see anymore.

The stream where I made my debut isn't even on the stocking list today. It was Belle Cove Creek, which tumbles out of a mountain in the George Washington National Forest between Glasgow and Buena Vista in Rockbridge County.

A light fog hovered over the creek when I reached it. This, coupled with the sweet smell of the woods, made me feel I was in another world. I was intoxicated by it.

After picking my way through a thicket bordering the creek, I burst into a clearing that afforded a wide view up and down the creek. About half the distance of a football field upstream I spied the place that I instinctively knew should be ideal for trout.

It was a pool dammed by fallen trees, brush and leaves. Perhaps beavers were its engineers.

At the head of the pool water tumbled in through a narrow but deep channel in a boulder. Hunkering to avoid spooking any trout that were in the pool, I sneaked up to it.

I baited with one of the worms and flipped the line into the swift water in the channel. I was using one of the old telescoping fly rods that you could make as long as you wanted by pulling in and out.

The current carried my worm into the calmer blue-green water halfway through the pool. It was so clear that I saw what looked like a green-brown fish dart at the bait. As it hit, I reared back so sharply with my rod that I flipped the fish over my shoulder into the leaves behind me.

I pounced on the flopping fish with both hands. That's when I nearly resigned from trout fishing at a tender age. The fish I held was a native—incredibly beautiful. It was neither brown nor green, as it had looked in the water. It was blue and gray and had red and orange spots on its sides that literally sparkled.

But I kept this native and one other that I cranked from that pool. I just had to show them to my mother. It seems that I have relived that magic day every April that's come along since.

Oh, I am hooked by bass fishing, too. And crappies. I can't deny that.

Yet, I think trout fishing is the hors d'oeuvre, if you please, that signals it's time to shake off winter and enjoy nature. There's usually plenty of time later for bass and other fish—after spring has finished dressing and most of the stocked trout have been caught.

Home Thoughts from Abroad

By CARVEL BLAIR, Captain, U. S. Navy
Alexandria

"Oh to be in England, now that April's there . . .
Where the Chaffinch sings on the orchard bough"

PERHAPS a *fringilla coelebs* whistling outside his Italian villa—this cousin of the goldfinch is resident throughout Europe—swept Robert Browning's thoughts back to springtime in Britain. A homesick American in the Mekong Delta, like the English poet, sees birds whose familiar shape or flight bears him in spirit across the oceans. Swallows, terns, egrets, hawks, and kingfishers are common along Vietnamese rivers and over the rice paddies. Some look identical to their new world counterparts; others differ slightly but are obviously related; still others are completely unfamiliar. Watching and trying to identify them is a welcome diversion from the alternating boredom and excitement of the war in Vietnam.

The Mekong delta bears little resemblance to any part of Virginia. The swamps along the mouths of the James and York Rivers are somewhat like the Delta terrain, but the Vietnamese low country extends for hundreds of miles. Much is in cultivation, largely rice paddies with stands of nipa palm along the waterways. Here and there are groves of taller palms, particularly in Kien Hoa, the "Coconut Province," with a few isolated hardwoods. The weather is completely different. Lying about six hundred miles above the equator, and on the periphery of the Asian land mass, the Delta is hot and dry during the northeast monsoon from November to April, hot and wet during the southwest monsoon from May to October. The mean annual temperature is about eighty degrees; the daily variations of ten to twenty degrees are greater than the mean monthly range of six degrees between hottest and coolest months.

It is surprising, then, to find so many birds that resemble species found in Virginia. In the rice fields one sees several familiar looking herons. Their color and their numbers make the egrets the most conspicuous. From a ship in midstream one can see them half a mile distant, their brilliant white plumage distinct against the green rice stalks or the black mud banks. A dozen or more are almost always in sight, some flapping slowly a few feet above the nipa, others feeding in the paddies. At closer range, binoculars usually show a medium sized heron, pure white, with black bill and legs

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The herons of the Mekong delta look much like their counterparts in Virginia's Tidewater.

Operations in the Mekong Delta bring soldier and sailor alike into close contact with the terrain, vegetation, and wildlife.

Official U.S. Navy photograph

Trap is set amid heavy bear damage in cornfield.

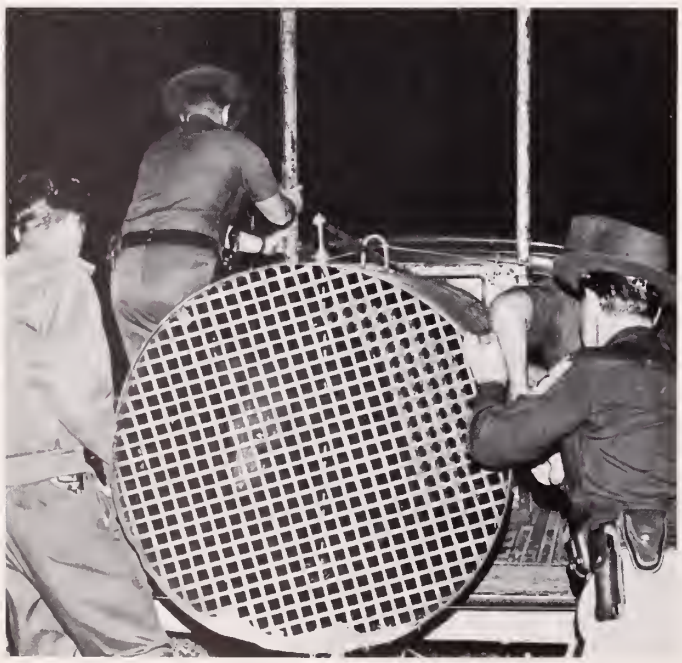
OPERATION BEAR TRAP

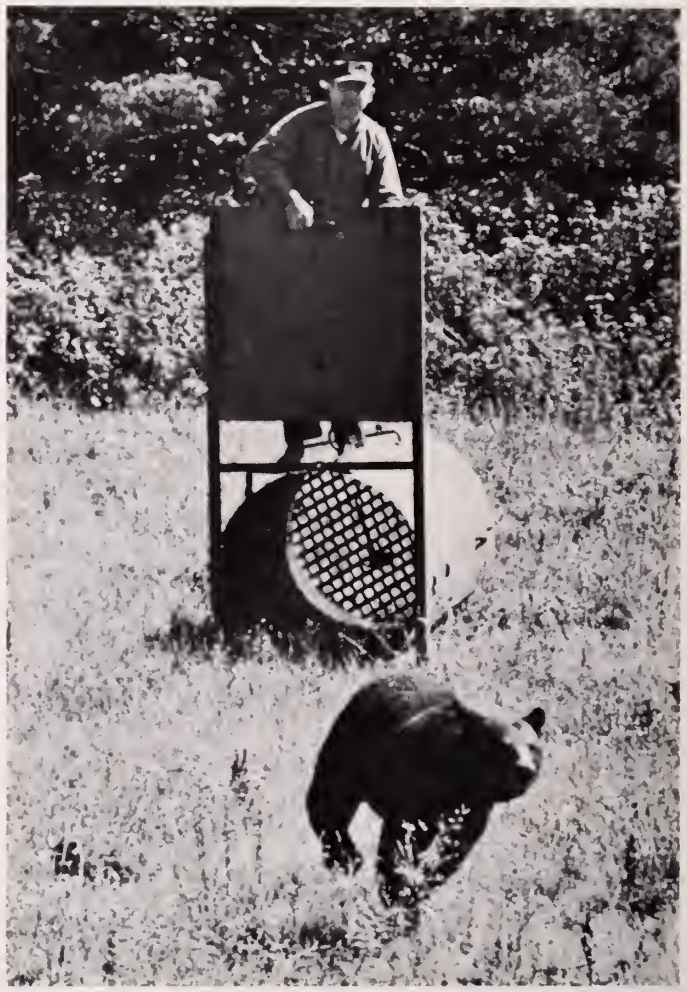
Text and Photos by MAX CARPENTER
Game Biologist

THE phone rang on the evening of September 24, 1969; it was the Rockingham County Game Warden, Ronald Wilfong, calling to tell me that we had bear trouble. It was happening in a cornfield owned by the Shreckhise Brothers of Weyers Cave, who operate a nursery there. The cornfields, where the bear were helping themselves, were near the Blue Ridge Mountain and joined the Shenandoah National Park. There was a poor acorn crop on the mountain ridges, and the bear came out of the National Park for food and found the juicy field corn. Most animals have preferred foods if they can find them, but readily switch to other foods in times of scarcity. Normally bear do not eat field corn, but they had trails into these fields and it was estimated they had trampled down five acres.

Plans were made to use two culvert-type bear traps (see photo), but we were not optimistic in thinking we would catch many bear because previous experience told us that wild bear are wary of them. Some attempt had to be made, however, so they were used and what started out to be a simple operation of trapping one or two bear, turned into a full-sized job that lasted a week. Game Managers Joe Huffer and Oliver Burkholder set the two traps on Friday evening the 26th of September. The next morning, one of them held a 200-pound bruin. The traps were reset Saturday night and the next morning a 125-pound bear had been captured. When the Game Managers returned to the cornfield with the empty trap at 4 a.m. Sunday, they found their third bear locked in the trap which had been left.

Bear in trap is loaded on truck for trip to new home far back in the mountains. Operation was repeated six times in a week.





Bear released on Bald Knob loses no time in heading for new home.

After being loaded onto the truck, trap and all, he was headed for his new home in the Shenandoah Mountains on the west side of Rockingham County.

Deputy Garrison, of Rockingham County, who lived near this area, had volunteered to check the traps each morning to see what was caught. When he checked the trap at 8 a.m. the same Sunday, he found the remaining trap held a 300-pound male, the largest to be caught. Four bears had been trapped in 24 hours, but the streak had not ended. A fifth bear was taken Monday night, and a sixth Tuesday night. The Game Managers removed the traps on Thursday, one week after the operation started.

All of these animals were hauled to the more remote sections of western Rockingham and Augusta counties and

released on the George Washington National Forest. This has been the practice when nuisance bear have been trapped: to take them as far back into the forest as possible. In this case the bear were living in the Shenandoah National Park where no hunting is allowed. The population has a chance to build up, and when it does it increases the chance there will be damage to crops near the Park. It was also our thinking that these bear should be released in areas where they would provide some chases for the bear hunters during the forthcoming season. It has not been our policy to attempt to trap every nuisance bear that is reported. Trapping is very time-consuming and a costly operation in terms of manpower and equipment. Trapping is usually done only when damage is extensive and other methods of repelling the bear have failed.

In reflecting back on this operation, we realized we had missed a good chance to get some valuable information from these animals if they had been weighed and tagged. Steps have already been taken to mark any bear caught at some future date. Last May, for example, we did tag and release a small bear around 75 pounds that was brought up from our Cumberland Game Farm and marked with a George Washington ear tag, No. 276. He was tame and his pelt was rough from rubbing against the wire cage. We fully expected him to turn up at some picnic area looking for something to eat. However, he stayed in the mountains all summer and was killed six months later near the release site during the bear hunting season this past November. He weighed 119 pounds when shot and his hair had grown out long and glossy and his stomach was full of hickory nuts.

Our thanks go out to all the men who helped with "Operation Bear Trap" and especially to the *Daily News-Record* of Harrisonburg in giving it full-page coverage.

Leaving corn fields, traps, and trappers behind.

Spotlighting is *EXPENSIVE*

By F. N. SATTERLEE
Information Officer

THE nefarious practice of spotlighting or jacklighting of game animals received some treatment in kind recently when quick work by Virginia Game Wardens brought about apprehension of the guilty party in less than 48 hours.

Commission photo by Kesteloo

This Teddy Roosevelt Commemorative Model 94 Winchester 30/30 carbine was only part of convicted spotlighter's loss. It will be used now by game wardens in training young people in hunter safety and good sportsmanship.

Acting on a tip received about midday on December 15th concerning an alleged spotlighting kill of two does at approximately 3 a.m. that same day, the warden force went to work. Through the combined efforts of wardens J. J. Westbrook and Don Montgomery and Area Leaders Joe R. Bellamy and W. R. Redford the case was broken on the night of December 16, 1969.

Cost to the individual convicted in the case was considerable both in price, personal freedom and personal property. Not only did the culprit forfeit his weapon, which was a Teddy Roosevelt Commemorative Model 94 Winchester 30/30, but he was also required to pay $200.00 in replacement costs for the two deer killed. Additionally, he was fined a total of $373.35 in costs and expenses and sentenced to sixty days in jail, forty of which were suspended.

The presiding judge in the case awarded the confiscated rifle to the Commonwealth of Virginia for the express purpose of its being utilized in the hunter safety program. Use of the rifle in this manner will serve two very excellent purposes. First of all, it will play an important part in the program which, since its inception, has trained more than 60,000 hunters. Secondly, each time the rifle is shown and circumstances surrounding its part in the hunter safety program described, it will serve to demonstrate over and over again the high cost of such unsportsmanlike practices as spotlighting.

MALLARD IN THE SKY

By LULA P. GIVENS
Christiansburg

Commission photo by Kesteloo

ONE fall day a brother had come in from early farm chores, and excitedly reported that he had seen high in the November sky a wedge of geese flying southward.

Few people can see them and hear their call, without feeling a nostalgic longing for adventure in far-away places and a gypsy's urge to be up and gone.

Riding up the lane from school that afternoon, I heard a commotion on the frog pond which was about a hundred yards away.

A duck was squawking loudly and floundering in the water. I thought it had been caught in a trap until I saw its right wing limp and trailing in the water.

Dismounting, I hitched the mare to a bush and taking off my silk hose, I stuffed them into my pocket. Bare-legged, I plunged into the dry grass and withered fall flowers which were thick in the pasture field that lay between the lane and the pond.

Arriving there, I waded into the water. It was a harder task to catch the duck than I had expected because at my approach, it floundered more violently than before—keeping always a foot or two from my reaching hands. Too, it was in a more familiar element than I.

I knew I must rescue it, or it might become prey for the raccoon or fox, both of which inhabited the nearby forest. The raccoon in particular regarded the pond as his own domain and on dark or misty days was frequently seen *frogging* there.

After catching the duck, I could see the injury where the quill feathers entered the flesh of the wing; whether it was made by a hunter's gun I could not tell.

Anyway, the recent wound had effectively grounded the small duck.

Holding it tightly, I waded out of the pond and made my way back to the mare.

After I was securely mounted and the mare was on her way, stepping lightly but surely among the rustling brown leaves, I looked more carefully at the duck.

When first caught the pounding of its heart had been so great as to shake its entire body, but it was quiet now and no longer struggled.

Its bright feathers proclaimed it to be a male. His head was green; his eyes alert, big and questioning. When he moved his head in the late afternoon sun, purple lights spread over the green, reminding me of the changeable green and blue taffeta in a sister's Sunday dress.

Evening settled over the small valley and the air became more chill. I knew a fire would be burning on the hearth and supper ready and waiting when I got home. I felt very happy. I had rescued a small wild creature and could provide it safety and food.

Members of my family gathered around to see the source of my excitement, but they could not determine the cause of the wound. My mother decided it needed no healing salve—that the drake's own body would be the healer.

They were unanimous in the feeling that I must care for it. One brother suggested that we might have roast duck for Thanksgiving dinner but I knew he was being facetious.

I put it under a wash tub in the backyard with a pan of water and some shelled corn.

Several days later, my brothers made it a small pen of rough planks with some space between the planks for air and light. Yet not enough space for a mink or weasel to crawl through.

I could look through the cracks and see the beauty of the little fellow as he moved about and his colorful feathers caught the light.

Not only had the drake a *green head* but a bright *red breast.* A collar of immaculate white separated the two. Its back was grayish. So were the wings, but they were banded with greenish purple, blue, and white. His tail was white banded with color. Several tail feathers curled upward. His broad bill was yellowish green and saw-toothed around its edges.

The drake's webbed feet and legs were orange-red and set far back on its body so as to give him a waddling gait which was a constant source of amusement to us when later he waddled about the yard and barn with great aplomb

and dignity.

I could see through the cracks his choice of foods. He had a voracious appetite and could and did eat practically anything.

He continued to like corn—would indifferently try the white rice from my mother's kitchen but when it was cooked he swallowed it down so greedily as to become almost choked, as he had once on creamed potatoes.

He ate less rapidly the left-over baked potatoes into which onions, cabbage, carrots, and sometimes bacon had been chopped. He had an insatiable appetite for salmon as it came from the can.

He could use up a pan of water in seconds. First he drank, then he searched the bottom of the pan with his bill much as a hound searches for a scent on the ground. This done, he put all of his body which he possibly could into the shallow pan, and fluttered and squirmed until the water was gone—spilled on the ground or shaken from his waterproof feathers.

He greeted the dog with loud quacks and seemed unafraid of it, but when the cat came near he grew quiet and retreated to the farthest corner of the pen.

Best of all he liked trips to the nearby branch.

After his wing healed to the point it no longer dragged, I took him there every sunny afternoon when I got home from school.

Freed from the pen, he stretched, and quacked, and waved his wings with great celerity. While on the water, he swam and stood on his head at the bottom of the small pools searching the mud for aquatic plants and animals unseen by my eyes. He accomplished this operation by immersing his head and neck while the hind part of his body and tail were tipped and stood straight up above the water.

When cold weather came, I was careful to cover the small pen with an old piece of carpet. The small drake may not have needed it, but when the wind moaned, and the snow and rain beat on the roof and windows, it made me feel much happier about the comfort of the small creature outside.

At school I talked so much of the wild duck that my teachers and classmates became interested. The former encouraged me in doing some research on it.

He was a mallard, of course, often known as the *common wild duck* and sometimes as the *stock duck*.

He himself bore the surmised and appropriate name of *Green-head*.

Mallards and all ducks belong to the order *Anseriformes* or waterfowl which includes the geese and the lovely storybook swans.

We had once had geese on the farm but had gotten rid of them because their puddling in the branch had muddied it, so that horses would not drink the water.

The scientific name of the mallard is *Anas platyrhynchos*, which means *pertaining to a goose with a broad bill.*

Ornithologists say the mallard reaches a maximum length of 24 or 27 inches, and weighs when an adult from two and one-half to three pounds. The mallard in the pen was not that large.

The bright patch of color on his wings was called a *speculum*. In flight or when he beat the air with his wings spread fanwise, the speculum gleamed in a purple iridescent band which was edged in black and white. Female mallards have this speculum, too. It is their only spot of bright feathers.

I learned other things about the mallard. I had thought his frequent polishing and smoothing of his feathers was because, like the peacock, he was a vain little fellow. But ornithologists said his very life depended on his *preening*. He had an oil gland at the base of his tail. He rubbed his bill on it, and turned and twisted until he oiled and arranged each feather carefully. This preening enabled his feathers to keep him warm, dry, and ready for instant flight.

I had thought the reason he had not dived in the branch water was because the pools were too shallow, but the books explained that a mallard was a surface-feeding or pond duck which does not get its food by diving.

In early spring the female builds a nest on the ground, preferably near the water. It is built among reeds, or grass and leaves, and lined with feathers from her body. A special spring moulting enables her to do this.

Her mate goes into *eclipse* directly after the mating season. During this period he loses his bright plumage and is unable to fly. He and other drakes band together, looking in their subdued colors almost like the females.

Ornithologists say that when the brooding female leaves the nest she meets the drake at a trysting place among the reeds. They then feed together. Instinct warns her back to cover the eggs before they become chilled.

The female lays from six to ten eggs which are greenish-tan in color.

Twenty-eight days later the ducklings are hatched at approximately the same time for the female does not start to brood until she has laid the last egg. After beginning to brood, she leaves the nest only to feed herself once a day, and not before she has covered the eggs with down from the nest for warmth and security from prying eyes.

Each little duckling in the shell is equipped with an egg tooth at the end of the upper part of its bill. With this he breaks the hard shell that encloses him and enters the world through his own efforts. The egg tooth falls off almost immediately after the hatching of the duckling.

When hatched the ducklings are already in a well-advanced stage of growth and not as helpless as the young of robins, jays, or other tree-nesting birds. Within a few hours after the sun and wind have dried their brown-and-yellow fluff, the ducklings are ready to follow their mother to the water.

They take to it and swim after her like a flotilla of tiny boats following in the wake of a steamship. They are never to return to the home nest.

The baby mallards' first days of life are full of hazards. On land they are threatened by minks, weasels, and rats. In water, fish, turtles and snakes prey on them. The mother duck is constantly on the alert. At her warning quack, the ducklings scatter and disappear.

They are born with this inherent fear and wisdom, a keen knowledge of what to do when danger threatens.

The mother tries to protect the young by attacking small enemies. She leads away larger ones by pretending that she herself is injured. She does this by splashing slowly and noisily away over the water barely keeping ahead of the pursuer. In this way she leads him away from the hiding young.

Regardless of their own efforts and the mother's care, many fall prey to a predator, thus keeping the *balance of nature* intact.

When hatched the mallard ducklings each weigh about a fourth of an ounce. In five weeks their down drops off and

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Augusta's North River Area Beckons

By E. V. RICHARDS
Wildlife Staff Officer
U.S. Forest Service

IF you are looking for a Sunday drive, try the North River Area in Augusta County, a rugged area bounded on each side by roads. The area contains about 100 square miles. Our trip could start at Stokesville Gap, where, in the early 1900's, a narrow gauge railroad led up into the mountains to tap the timber sources to feed the mills at Stokesville.

At this time there is a modern Girl Scout camp, Camp May Flather, that currently is used by hundreds of girls from the Washington, D. C., area. As we continue up the mountain on the North River road, we pass North River Gorge. Glimpses of the gorge are visible through the trees. Fishermen often park along the road and climb down the steep mountain to fish the picturesque gorge with white water that has been a favorite with trout fishermen.

Typical mountain terrain in the North River area of the Dry River Ranger District.

Our next stop is Lake Todd, a modern Forest Service recreation area developed around the small flood control structure built in 1962. Here we find a modern beach, camping, and picnic facilities. The area is very popular with local people.

Our next stop is Elkhorn Lake, a 54-acre multiple purpose structure completed in 1965 as a secondary water supply and for flood control purposes. This impoundment, the largest on the George Washington National Forest, is stocked annually through the season and is one of the most popular fishing areas on the Forest. Facilities include boat launching sites, fishermen paths, and sanitary facilities. Located one mile below this impoundment is the 22-acre Staunton Dam, built in 1922 as Staunton's principle water supply. This reservoir, closed to fishing and all public use, provides drinking water for over 20,000 people. Our trip continues on to the bridge across North River. Here we stop and read the sign depicting the installation of gabions, which are filled baskets sometimes located as walls along the streams to prevent undercutting, sometimes located as cross-channel dams to catch the bed load moving in the streams. On North River are over 75 different gabion installations, which represent some of the first installed in the United States. Gabions, originally developed in Italy for control of sea erosion, have been used to protect other improvements such as roads, bridges, and also serve a purpose for stream improvement for fisheries and management. Our drive continues up through Shifflett's Plantation, areas that were planted with various species of pine during the early 1930's. These plantations under management now are productive pine stands. Above these areas are the magnificent white pine stands of North River.

We are reminded that we are in bear country by seeing signs gnawed and trees scratched by bear. We come to the head of North River where the stream now separates and

Left: Fishing at one of the five reservoirs in the area. Right: Todd Lake, on opening day of trout season.

becomes smaller. Here the enterprising trout fishermen may still find native trout lurking under a tree stump or overhanging bank. Our road turns northward and we follow the backbone of the Shenandoah Mountain.

Our next stop is the Hunter Access Trail on Little Bald Mountain. Here a low-grade road continues for 5 miles connecting small wildlife clearings planted to various grass-clover mixtures and also wildlife waterholes. Along this trail many of the successful bear hunts are planned, which make use of trained bear dogs and are placed at strategic bear crossings. If we look off into the head of Little River, we can see the scars of the disastrous 1949 flood. Many landslides are caused by super saturation in which the lands slipped into the drainage below. Some of these landslides are over 200 feet long and all soil is stripped off the bedrock. We follow the road toward Reddish Knob, the second highest point on the George Washington National Forest. A routed sign reminds us that for law enforcement purposes the road is used to separate Virginia and West Virginia and serves as a warning to hunters they are hunting in the vicinity of two different states. Arriving at Reddish Knob, we can climb the 80-foot metal fire observation tower to get a breathtaking view of two states. To the west is West Virginia and we can point out the high ridges of the Monongahela National Forest. Spruce Knob, the highest point in West Virginia, is visible to the sharp-eyed observer. Headwaters of the Potomac River, the south branch of the Potomac River, begins below us. Also visible is the Sugar Grove Naval Research Area.

We leave the tower and continue on the winding road to Briery Branch Gap. Here we meet a blacktop road leading down the mountain. If we're interested in geology, we can stop and read the history written in red sandstone. Farther down the mountain shales of different types become visible. Below Mines Run, a tributary of Briery Branch, is a recently constructed flood control impoundment. This 16-acre impoundment has been built under the direction of the U. S. Soil Conservation Service to impound and restore flood waters and give protection to the downstream rural inhabitants and Town of Bridgewater who suffered greatly in the 1949 flood. This impoundment provides additional fishing opportunities for local residents. Our route continues and we are dropping rapidly in elevation. Again private land appears with scattered summer homes and a sprinkling of hunter camps. In many of these camps some of the successful bear hunts are planned over a cup of coffee. We meet the junction of Tillman Road, a dirt road which turns south. We enter the Tillman Road and pass through a sprinkling of private campsites to enter National Forest again. A sign points out the Tillman Road timber regeneration project. Here are various areas which are clearcut for timber regeneration purposes and detailed studies are being conducted by the U. S. Forest Service.

Our next stop is Little River Soil Conservation Flood Control Dam. Now named Hearthstone Dam, this 16-acre reservoir affords trout, bluegill, and bass fishing in a spectacular mountain setting.

The wood access road leads up Little River into the heart of big game country on the George Washington National Forest. This area represents the least accessible block of National Forest land and is heavily hunted by experienced hunters. An area of few trails, it is big country, a place for the experienced hunter.

Our trip continues along the Tillman Road past Stoney Run, next to Coal Run and if we look closely, we can see coal seams on the road cuts. Our trip ends after a drive through young white pine reproduction which has been released through the timber stand improvement program of the Forest Service. Looking closely we can see the hardwood overstory girdled to allow the young white pine to grow to maturity as they are exposed to increased sunlight.

Our trip has covered roughly 45 miles. Within the square are over 80 square miles representing some of the most spectacular, most rugged portions of this forest.

It is an area worthy of a summer afternoon's drive.

A pair of good dogs and a pair of grouse from the North River area.

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Three semester hours
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MARINE LIFE—Description of the marine environment with its typical organisms, action and resultant problems in relation to the field of conservation.

SOIL AND WATER—The parts of soil and their importance; how soil contributes to plant growth; the relation of soil to the parent material from which it was formed; the soil profile and its characteristics; and the program for conserving Virginia's soil and water resources.

Small watershed development; use of soil for storing water; and related water management principles.

FORESTS—Forest conservation as it relates to the management of timbered areas; use of the forest as a source of raw material for the wood-using industries for soil stabilization, for watershed protection, and for recreation.

WILDLIFE—Characteristics of animal populations, including fish, that are of importance to man's use of this resource; relation of animals to soil, water, and forest, and the relations of these four basic natural resources to man and his welfare.

Scholarships

A limited number of scholarships to cover tuition, meals, and lodging will be available to Virginia school teachers from funds provided by several interested organizations. All Virginia school teachers are eligible to apply. In order for a scholarship application to be considered, it must be received by May 1, 1970.

To apply for enrollment in this course, check the college of your choice, tear off this coupon and mail to: Virginia Resource-Use Education Council, c/o E. W. Mundie, Seitz Hall, VPI, Blacksburg, Virginia 24061. Be sure to mark the college of your choice.

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VIRGINIA WILDLIFE

☆ ☆ ☆ ☆

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

VIRGINIA FEDERAL AID FOR WILDLIFE TOTALS $748,741. Virginia's share of federal funds for fish and wildlife restoration for the 1970 fiscal year will total $748,741 out of some $43 million to be distributed among the 50 states. Pittman-Robertson funds derived from an 11% excise tax on guns and ammunition accounted for $577,980 of the total and are earmarked for game projects. The remaining $170,761 represents Dingell-Johnson funds accruing from a 10% excise tax on fishing tackle which will be used to finance fisheries projects. The revenue from both sources represents an all time high in the 33 years that the Pittman-Robertson Act and the 20 years the Dingell-Johnson Act have been in effect.

The shares allocated to each state are determined by the number of paid hunting and fishing license holders in that state and the land area of the state. After deducting the costs of administration, all funds collected are returned to the states with none remaining in the Federal Treasury.

Virginia's wildlife restoration projects include investigation of game numbers, movement, productivity, disease, damage to private property and habitat needs. Nearly every species of game is covered in the studies as are various hunting methods. Pittman-Robertson monies are also used in acquiring hunting areas. Fish restoration projects include lake construction, the evaluation of management techniques, and a special study of the status and potential of the striped bass in Virginia's inland waters.

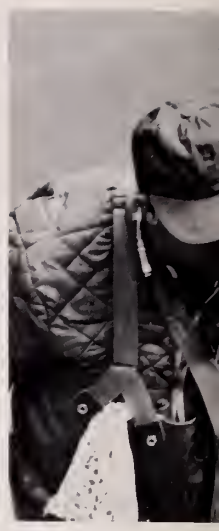
TURKEY BAG NEARS 6,000 MARK. A total of 550 turkeys bagged in counties east of the Blue Ridge boosted the state total for 1969 to 5,986, including the 1,453 taken during the spring gobbler season. Eastern hunters increased their take by 70% in spite of the gobblers-only restriction. Leading eastern counties included Buckingham where 55 gobblers were bagged, Fauquier where 41 were taken, and Prince William where hunters downed 25. Field checks of the birds bagged showed a high proportion of young birds in western counties, indicating a good hatch.

34,117 DEER BAGGED IN STATE. Virginia deer hunters downed 34,117 whitetails during the season just ended, making it the best deer year since 1963, when hunters bagged just over 38,000 deer. The kill of 13,620 in western counties and the 20,497 bagged east of the Blue Ridge each represents increases of around 3,000 animals over last year's totals.

Southampton County came out on top among eastern counties with a kill of 1,737. Caroline County was not far behind with 1,250 deer, and hunters in Sussex chalked up 1,063. Buckingham led the bucks-only counties with 756 antlered bucks reported.

BEAR HUNTERS TAKE 276 BRUINS. Bear hunters in Virginia managed to check 276 bears last season in spite of the scarcity of mast. Five of the bruins came from the Dismal Swamp. Poor mast years usually mean a low bear kill, but this year's harvest is not much below the 342 taken last season. A 581 pounder from Page County taken by Russell Lam of Elkton came close to beating a Shenandoah Valley record of just over 600 pounds.

GORDY'S MILL POND TO BE COMMISSION LAKE. The Commission of Game and Inland Fisheries has taken over the maintenance and management of Gordy's Mill Pond near Callao in Northumberland County in exchange for the public fishing rights. The dam was washed out by hurricane Camille, but has since been repaired through efforts of the Game Commission and the State Highway Department and will be restocked this spring. Under the cooperative agreement, public fishing will be permitted from boats in the impoundment. The 75 acre lake is located on Route 617 out of Hyacinth on Route 360 at the western edge of Northumberland County.



Left: Noon comes and anglers cast anything and everything to the hungry trout. Right: Lines tangle, as does traffic, on opening day.

THE MAGIC OF OP

OPENING DAY!

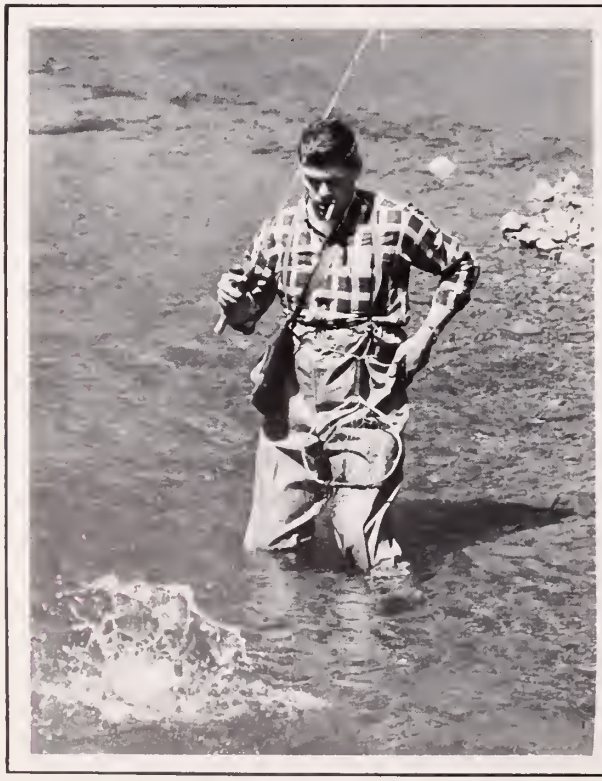
These words hold magic and charm for a trout fisherman. The awe of it all can be seen in the faces of thousands of fishermen—young and old—each April on the first day of trout season.

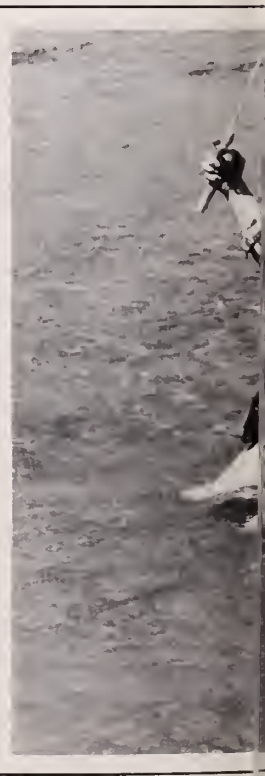
It may rain. It even may snow. It may be a golden day when the earth seems to swell with the yeast of spring. But one thing is for certain: it will be a day filled with memory and hope.

Opening day brings memories of past seasons, of trout caught and trout lost, of good times and hardships, of cold mornings and glowing mid-days, of gurgling white water and long still pools.

And opening day is the promise of a good season ahead, of a rod bent and vibrating against a tight line, of a scrappy trout breaking water and catching the sun like a brilliant jewel, of a creel strap cutting your shoulder from the weight of your catch, of nature in the springtime, crisp and new.

Opening day will be crowded, make no mistake about that. Fishermen will be standing creel to reel along streams stocked with trout. There are estimated to be over 100,000 trout fishermen in Virginia, and if any are missing opening day you'll never notice it. Sometimes as many as 100 fishermen surround a single hole.





Left: Some anglers hook trout, others hook each other. Above: A few find secluded mountain streams, and trout in rushing water. Right: Game warden Gerald Simmons uses a horse while checking fishing licenses.

NING DAY

Picture Story By
BILL COCHRAN &
BOB PHILLIPS

There will be youngsters thrilling to their first fishing trip. There will be oldsters who have seen 60 opening days. Despite the crowds, despite the tangle of traffic, the tangle of lines, the tangle of nerves, each fisherman will be dwelling in a tight little dream world all of his own—him against a trout.

Opening day is a lot like the coming of Christmas. There is the same ecstatic counting of days, as time seems stuck in its tracks. There are the same eager preparations. There is the same magic, as children become fishermen and fishermen become children and nearly everyone ends up spellbound by the spirit of Izaak Walton and a few end up spellbound by the spirit of Old Swamp Root.

Then comes noon, fishing time, and anything and everything is suddenly tossed at the trout—worms, salmon eggs, cheese, liver, marshmallows, corn, spinners, flies, live and pickled minnows, bread, crickets, grubs, meal worms—you name it. The season lasts 270 days, but most anglers fish opening day like it is both the first and last day. And for good reason. A large percentage of the trout is taken then.

Some people will catch their limit within one-half hour. Others will catch their hook high in a tree. Still others will catch the devil when they go home and walk across the living room rug with their muddy boots on.

(Continued on page 16)

Above: A young fisherman carefully selects his bait. Below: Getting wet feet is something you can count on, on opening day.

Well before the noon starting time, fishermen form a ring around a pool to await the big moment.

It is a day of laughter and some sorrow. It is a day when spring is turned loose from the hard grip of winter. It is a day of wet feet and dry flies, of cold hands and hot coffee. It is a day to recharge your soul, to clear your mind, to add a spring to your step. It is a day of trout, that child of the wilderness, that thing of special beauty and grace, shiny and smooth, its colors both subtle and vivid.

Some people scoff at it all, but never you mind. They don't understand. You really can't explain it—the beauty, the adventure awaiting around the next bend, the anticipation that the next cast may bring a hefty strike.

Opening day! The thrill of it can last well into the season.

This trout will soon add weight to a lucky angler's creel.

Mink and Muskrat:
Fur out of winter's barrenness

Text and photos by BILL WEEKES
Martinsville

THE time: December. Raw winds sweep across denuded trees bordering a creek. A lone figure, almost obscured by the early morning shadows, stomps along the waterway. A thinly veiled layer of ice rattles as it gives way under each footstep.

The bundled figure is that of a young man. Clad in hip boots and carrying a trowel, he pauses periodically along the edge of the creek, chopping away ice and peering at the foot of the bank as if searching for some lost treasure. Cockleburs, picked up out of the brush where he entered the stream, speckle parts of his clothing.

It is a time when Mother Nature is stripped of her garments. It is also the time when some lone figures, like Johnny Hundley of Figsboro, indirectly seek to dress up the human m'lady.

Hundley, past president of the 150-member Virginia Trappers Association, is one of hundreds of part-time trappers in the state who, from December 1 through March 10, go after mink and "Hudson seal."

The latter words are a euphemism for the most widely spread and prolific fur-bearing creature in these parts—the muskrat. Conversely, the mink is one of the rarest catches. During the 1968-69 season 209,818 'rat were trapped in the state, almost double the number the previous season. Mink trapped jumped 1,000 to 3,421.

Like human salmon, Hundley and other trappers invade streams and tributaries in December bent on depositing their snares—conibear, coil, long and jump spring traps.

The traps laid, Hundley returns to them each morning. Some 24 of his 52 traps are set along Rockrun Creek. Others are placed in Town, Chestnut and Reed Creeks, the latter of which flows not far from Hundley's house several miles north of Martinsville. These traps are strung out over 30 miles of water. Last year, when he had more time, Hundley set 80 miles of stream, garnering 175 muskrat and 42 mink. The mink was the most he ever caught. He has taken as many as 218 'rats in a season.

The price on their pelts varies. Muskrat pelts are running at $1.35 each. Mink have been quoted at $9 for large males, $8 for small males and $4.25 for females. These prices are down from what they have been, Hundley noted.

Mink pelts are so much dearer than muskrat because the leather is thicker, the fur finer and more lustrous. Muskrat fur is ruddy brown, although Hundley has caught 'rats there were black.

Where traps are placed varies with terrain and time of season.

"Mink are travelers," Hundley said. "Where a muskrat will stay in one area until the food runs out, a mink will travel as far away as 15 miles from its home ground."

Not to waste traps, Hundley put one high up on Reed Creek and one down near his home so he could get a mink coming or going.

"In the early fall, the mink will stay at the headwaters of these streams where the flow is small and where they'll hunt birds and rabbits. But by January food supply is scarce and the mink will move downstream to where muskrats are. Usually you don't find muskrat way upstream."

A mink trapper will not set traps on the curves of a meandering creek. The mink like shortcuts and will cut across land rather than follow the winds of a watercourse.

"They're harder to catch than the 'rat," Hundley explained. "The mink aren't prolific. There hasn't been much research on these fur-bearing animals. I wish there would be more."

Muskrat is so prolific that trapping apparently does not deplete its numbers appreciably. The animal has four to nine in a litter and two, sometimes more, litters a year.

John Hundley displays a muskrat he has just caught.

The mink has four to eight born in the spring. Some authorities blame trapping for this carnivore's scarcity.

But what of these Public Prey One and Two? What manner of creatures are they to be so universally sought? The mink is a sly, nervous and quick-tempered sort. Their streamlined bodies measure 13 to 17 inches. They themselves are predacious creatures of the Order Carnivora and a member of the Mustelidae family with the weasel and skunk. A fierce fighter, an average two-pound mink can easily exterminate an average four-pound muskrat. Indeed, the muskrat, in addition to waterfowl, insects, fish and frogs, is a prime item on the mink menu.

Although it may eat clams and fish, muskrat are primarily

herbivorous. Its diet includes bulb plants, arrowhead roots, wild iris, cattail and poison ivy bark and berries. Muskrat are of the family Cricetidae with the rats, mice, voles, and lemmings and is in the Order Rodentia because of the four front chisel teeth it uses for gnawing. An excellent swimmer and diver, this "little brother of the beaver," with its long, ratty and flattish tail, emits a musky odor. Hence its name.

The trapper doesn't put his traps just any old place. Holes and indentations along the banks are likely spots. They may be entrances to muskrat dens. Muskrats will swim out of these entrances and become ensnarled in the large rectangular jaws of a conibear trap, which is tripped by a hair spring and is designed to confine the animal in a body grip. Because of this traffic, no bait is needed. Mink coil or long spring traps are also placed near the den entrances.

"I've never known a mink to eat bait,' said Hundley. "His curiosity is his downfall. He likes to investigate holes. He'll go into muskrat dens to kill the muskrat."

The muskrat also has a dry entrance to his den, but it is usually impossible to spot because it is covered with honeysuckle, roots, shrubs and other foliage. Sometimes

Setting a trap in a likely looking muskrat "lead."

a trapper can spot this hole and it clues him in on a den location. Where grass on the bank is worn down is also another clue to the creature's location. Muskrats like to slide down banks into water. Trappers will position traps in the water at the foot of this slide.

Wherever the trapper puts his trap, it rests in only two or three inches of water. Many times a trapper will put a stake near the trap. Usually when gripped by steel, the animal will head for deeper water, will be prevented from doing so by a chain and will become entangled around the stake and drown. And the purpose of the traps is to drown the animals they catch. Hundley estimates this is the case 90 percent of the time.

Like most trappers, Hundley moves his traps every three or four weeks if mink is his primary game, and every week or so if muskrat is his aim.

"After a week or so you should catch all the 'rats you're going to catch at one creek. Usually, the first night is real

Sometimes Hundley makes an unexpected catch, like this ten-pound male 'possum. He has also caught skunk, carp, and raccoon on rare occasions.

successful—I caught 13 muskrats my first night this year—and then it will level off as they get scared. If you're after mink, you probably won't get more than three or four on any one creek during a season."

Hundley also sets trail traps out of water, but along its edge, concealed near big rocks, stumps, roots and other objects that may form routes or passageways.

Heading home with a light catch.

COALS from a hickory fire

By ALBERT G. SHIMMEL
West Decatur, Pennsylvania

THE flames lick at the hickory logs and cast a comforting warmth into the room. Hickory is hard to come by. I play the miser and hoard my scanty store for special occasions. I slouch deeper into my easy chair and streteh my weary legs toward the fire.

I notice that my hunting pants are beginning to fray at the knees. I have been aware for some time that they shed neither rain or briers. Disreputable is the word applied by the feminine half of the household. I have a suspicion that one of these days they will disappear and in their place will be a brand new pair, stiff and unfriendly. This is in accordance with the logical workings of the female mind. I am wondering how to convince her that old field clothes like friends are not to be discarded without due process.

Because of the small adventures associated with the garments we are reluctant to replaee them. They have become a treasury of memories. Each stain, rent and fraying thread is a eonstant reminder of the past.

The flickering tongues of flame, the smell of burning wood, the eomradely roughness of canvas and wool are transports by whieh we enjoy our days afield in multiple. Many of the glimpses we have into the lives of our woodland neighbors are fragmentary, but they serve to whet our appetite and sharpen our observations. They beeome bright fragments in a jigsaw puzzle that we long to fit into a eompleted pattern. . . .

The cabin's stone fireplace reflects the heat of the hickory logs to the hearth where Hans, the dachshund, is dozing. Occasionally he yips softly in his sleep. He is tired. All day he worked the big oaks questioning in a dogish way when I passed up a tough old squirrel and sent him questing for young and tender fryers. Most of the leaves had fallen and so it was easy to select the few I wished for the table. The eombination of a quiet hunting dog and the .22 loaded with low speed mateh ammunition is deadly. We returned to the cabin comfortably fatigued and with a pair of prodigious appetites.

Fried squirrel, browned potatoes, coffee and apple pie were a proper restorative. What more could any one ask? As usual the scraps were placed on a stump that stood some distance from the cabin door. Our wild neighbors appreciate our thoughtfulness and often furnish interesting entertainment in exchange.

I slumped into the chair and was drifting into that drowsy state of semi-conseiousness when a distant sound brought me to my feet and sent me quickly through the door. The moon had topped the ridge. Through the almost leafless trees I watched a wedge of geese follow the valley, pass overhead, then slant down until hidden by the spruees that border the lake. Even at the distance of a quarter mile their contented gabbling carried clearly on the night air. I listened until they were quiet. Almost I was tempted to walk the white sand road that leads to the water but the weariness of the day gave me second thoughts.

I was about to return to my fire when a flying squirrel glided to the stump, snatched a piece of bread and ran up a nearby tree. A second followed and a third. We had hung a bird house from the cabin's ridgepole where it was protected by the overhang of the roof. A family of the little animals had appropriated it and we had allowed them to remain.

I looked up. One was sitting on the roof eating. A horned owl swooped through the trees. The little creature dived down, landed on my shoulder and scurried into the open pocket of my jaeket. The owl veered away, popping its bill. After a few minutes the squirrel cautiously emerged, looked around, then leaped to the base of the nearest tree, and seurried up the trunk until it gained enough height to plane down to the cabin roof. It disappeared into the safety of its nest under the eaves.

Did it choose the sanctuary of my person by choice or by chance? I will never know . . . .

I fought the urge to stamp my feet but, instead, wiggled my toes to make sure they had not severed diplomatic relations with the balance of my anatomy. Frost whitened my coat collar and my breath hung in pale clouds above my head before disappearing into the frosty air. Ice erystals were beginning to be visible in the gray light of dawn. I meditated the lunacy that drives a man from the comfort of a warm bed to slowly turn to ice on a snowy mountain side. I tried to remember other mornings when I had waited impatiently for the season to open and even more impatiently for that first-day buck to show itself.

A hiss like escaping steam caused me to jerk my head. A grouse hurtled by, passing scarcely a yard above my head. Its wings were cupped and the feathers sleeked into a feathered projectile. Evidently it began its flight far up the mountain and gathered momentum on its descent. I saw it sway from side to side to alter its course to avoid obstructions. In all my experience with flying grouse I have never seen one fly so fast . . . .

The deer trail emerges from the swamp not far from the spring. It climbs the hill to pass within twenty yards of the cabin. A picture window faces the deer trail. I really should move my desk to some other loeation where there are less distracting influences but as yet it remains.

Mammalogists say that curiosity in animals is a sign of intelligence. It may be so but at times the trait leads them into difficulty.

It was growing dark when I pulled the last sheet of paper and plaeed it in the file. The fire was low with only an occasional flame that flickered momentarily. I placed another log on the grate and watehed with satisfaction as it came to life. I returned to my chair and looked out into the dusk. Three deer emerged from the swamp and walked slowly up the hill. There was an old doe and two yearlings looking ragged and unkept in their heavy winter coats.

A fourth deer followed the path of the others, stopping often to look around. I reeognized the adolescent spike that had frequented the vicinity during the summer. The tousled appearance of his forehead reminded me of a small boy in need of a comb.

When it was directly opposite the cabin it stopped, megaphoned its ears and stared for a long time at the window. As if under a hypnotie spell it stretched its neck, stamped its forefoot then moved step by step in my direction. A bird feeder hangs from a hemlock branch within easy reach for filling. The little buck passed under the

branch, apparently fascinated by the sight of the flickering flames. His new antlers had not yet begun to bud but the callous spots were plainly visible.

A swirl of smoke came drifting over the eaves. The fire blazed for a moment . . . . The buck reared, bumping his head on the bird feeder. The shattering glass added to his panic. He dashed toward the safety of the swamp at a speed I have seldom seen equalled by deer. The bump on the head must have cured the curiosity of this particular animal. It carefully avoided the vicinity of the cabin . . . .

The curiosity of the raccoon family is common knowledge. Several observations of this characteristic come to mind. During the summer and autumn of a year, I frequently traveled a portion of Route 322. The river bordered one side of the highway while a wooded slope extended up from the other side. Several evenings I observed a raccoon sitting on the headwall of a culvert. His attitude was that of a portly loafer as he watched the passing traffic with apparent interest. I can only guess, but it is probable that he used the culvert as a safe passageway between the slope and the river. We saw it several times before the cold weather sent it into its den. . . .

The house and barn have long since disappeared with only the stone lined cellar hole and the wagon ramp to mark where they once stood. The clearing is still intact with only a few scattered clumps of blackberry canes to compete with the uncut grass. Behind it on the slope is a hill orchard with some ancient gnarled trees that still set enough fruit to attract wildlife. Grouse come to bud in the winter. Rabbits, deer, foxes, raccoons and bear share in the harvest.

From a semipermanent blind built in one corner I can command a view of the entire clearing.

In the soft light of a spring dawn three deer moved out of the woods into the clearing. At the far side of the orchard they stood alert for some time. The doe that led the group swiveled her ears expectantly as they moved into the open. The others began to nose among the herbage as the trio moved across the greening orchard. The larger deer watched the far side of the field where an old, partly decayed rail fence was broken by a game trail. After some time a raccoon came through the gap, sat up and looked toward the deer. There seemed to be mutual recognition. They moved toward each other. When they met, the raccoon sat up while the deer bent her head. They touched noses. After a minute or two the raccoon turned and walked into the upper woods. The deer watched until it disappeared, then continued across the field and passed through the fence to be lost in the woods. . . .

Friendly meetings between animals of the same species are common. Friendly meetings among animals, especially those of widely differing species, are so rare as to excite speculation. The actions of the two seemed to indicate that they had met before.

"Prune the apple trees in February and leave the trimmings under the trees for the rabbits" was one of the sayings of an older generation. In response to tradition I spent a busy afternoon working off the winter doldrums. The result was a neat pile of apple prunings not far from the study window. Soon the rabbits nibbled experimentally and mice made neat little paths between the prunings and the hedge. Small birds worked the edges for the grain I scattered for their convenience.

I was standing idly at the window one morning when a sparrow hawk swooped in over the house, snatched a field sparrow and, without missing a wing beat, flew to a red oak some fifty yards away. I watched through my glasses as he breakfasted. There was no question as to his identity. I speculated as to his presence so far in advance of the season.

One of the orchard trees fell victim of a winter gale. From the hollow trunk I cut an appropriate length and constructed a bird house. Flickers used the cavity each year. As the young grew they exercised their strengthening muscles by tapping on the resonant wood. Time after time I saw individuals pause and try to locate the source of the sound. Few succeeded.

This same bird house has been the focal point of several very interesting observations. One year on the 11th of November I saw a mother squirrel move her brood from a nearby woodlot to the comparative safety of the ready made nest. Apparently hunters had disturbed her nursery. The young were quite immature. They were fully furred with open eyes but as yet rather awkward in movement. She transferred the five, carrying them by holding the skin of the belly. Each young curled around her neck like an oversized fur piece. She patronized the birdfeeder, to supplement their ration. All survived the winter except one that fell victim to traffic. . . .

The following spring I heard the jays creating a riot in the woodlot. Soon a harassed screech owl flew toward the bird house followed by a ribbon of screaming jays. The owl touched briefly at the edge of the roof and did a neat forward somersault into the opening while the jays, apparently baffled by its disappearance, gathered for a consultation. One, bolder than the rest, lit on the perch before the opening and was about to look in when the owl's head appeared. The jay tumbled backward and fled, screaming with fright. The whole incident had humorous overtones.

The adaptability of wildlife to changing environment was demonstrated when a street light was installed at the edge of a wooded area. During the summer, when insects were attracted to the light, they were hunted by bats, nighthawks and flying squirrels. Insects that escaped, roosted at dawn among the hemlock branches. Each morning, just at dawn, the jays gathered to remove the concentration of insects. The competition drove them to hunt earlier and earlier until several came in the pre-dawn darkness before a jay is normally active. Other species included nuthatches, chickadees, downy woodpeckers, flickers and phoebes. Only the blue jays came before light. Once I found a toad crouched at the foot of the light pole.

The fire is low. The logs have been reduced to red coals and white ashes. Hans thrusts a cold nose into my hand and thumps his tail. I get the message as clear as if he had said, "Bedtime, Boss."

An Ancient Inhabitant

By WALLACE OBAUGH
Hinton

THE belief that opossums are gestated in the marsupial pouch is an old one. This is seldom commented on in print, but the statement is so often made that a discussion of it may be out of order.

Mrs. Opossum's pouch is only a fold of skin over her abdomen, and contains nothing but her nipples. The reproductive organs are in the visceral cavity, as they are not only in all mammals, but also in birds, reptiles, fish and amphibians. Conception in the pouch is impossible.

The gestation period is twelve days, and the young are born in a condition that in other common animals would be hopelessly premature. They are actually embryos, hardly as big as honey bees. They look almost as much like insect grubs as baby fur bearers. Only their front feet are fairly well developed; the back legs and the rest of their bodies are merely rudiments.

The discovery of these developing forms in the pouch made the error natural. A special muscle in the mouth of the fetus locks firmly around the swelling teat, and the young appear to be growing there like apples on their stems. To the colonists who first saw them this was something new, and they made the natural, but wrong, conclusion.

Even William Byrd, one of colonial Virginia's best educated men, believed it. In *The History of the Dividing Line Betwixt Virginia and North Carolina*, he says: "But the greatest particularity of this creature . . . is the false belly of the female, into which her young retreat in times of danger. She can draw the slit, which is the inlet into this pouch, so close that you must look narrowly to find it . . . Within the false belly may be seen seven or eight teats, on which the young ones grow from their first formation. This is so odd a method of generation, that I should not have believed it without the testimony of my own eyes. Besides, a knowing and credible person has assured me he has more than once observed the embryo possums growing to the teat before they were completely shaped, and afterward watched their daily growth until they were big enough for birth.

"I could hardly persuade myself to publish a thing so contrary to the course that nature takes in the production of other animals, unless it were a matter commonly believed in all countries where that animal is produced, and has been often observed by persons of undoubted credit and understanding."

An earlier statement than Byrd's was that of Le Moyne d' Iberville, who explored the lower Mississippi in 1699. He described the opossum as " an animal which has the head of a suckling pig and of about the same size, hair like a badger, gray and white, the tail like a rat, the paws like a monkey, which has a purse beneath its belly, where it produces its young and nourishes them."

John James Audubon and his co-worker, John Bachman, were among the first to discover the truth. In their *Quadrupeds of North America* we read what was probably the first published correct statement on the subject: "The young, when first born, are naked and flesh colored. . . . The mouth is closed, with the exception of a small orifice, sufficiently large to receive the teat. Length of body, 7/12 of an inch; of tail, 2/10. The nails, which can be seen with the naked eye, are very distinct when viewed with a microscope, and are of a dark brown color, small and much hooked."

The developed front feet with their hooked claws are needed. Each newly born opossum pulls itself, hand over hand, through the mother's fur to the opening in her pouch. (It was formerly thought she put them there.) Once inside, it gropes blindly for a nipple. First come, first served; the lucky ones take possession of the food sources, and for the next few weeks are securely fastened to them. There is room for a dozen or so; the rest—there are some surplus ones in each litter— are doomed.

This sacrifice of potential offspring seems wasteful, but is part of nature's way. The simpler the creature, the more prolific must be the attempt to reproduce. Consider the thousands of eggs laid by the fish, and the millions of the oyster. The opossum, most primitive of our mammals, is the one that most uses the scatter-gun approach to propagation.

Development continues in the pouch until the young take on the half-rat, half-pig appearance of their elders. They are then ready to see and to be seen.

The opossum tribe is one of the few that have a thumb. Two others are raccoons and primates. Some biologists believe that this, by enabling us to pick up and examine things, is what gave our race its head start in curiosity and intelligence. It hasn't done much in that way for the opossum. But the babies find it useful for holding onto their mother's fur, and for the first few weeks after leaving the pouch they are carried through the woods pickaback.

A common notion is that the young anchor themselves aboard by wrapping their tails around their mother's, which is arched over her back for the purpose. Some modern books call this a legend too. As the mother hangs by her tail from a tree limb while picking fruit or robbing a bird's nest on the bough beneath, it seems likely that she would save her long and muscular appendage for that use. The four-handed young do not need the extra support. But the story is an old one, and is supported by Audubon and Bachman in *Quadrupeds*. Here is a chance for someone to make a real contribution. One photograph could do it.

These structural arrangements—pouch, thumbs and prehensile tail—have given the opossum a way of life that has served him for a long time. His fossilized remains are found in geologic strata linking the age of mammals with the ancient era of reptiles. He was here long before the now extinct sabre-toothed tigers, mammoths, and gigantic cave bears. By moving in the dark, living quietly, staying much in trees and having big families, he has maintained his kind on our continent longer than any other mammal.

He may have played a big part in the change from

reptilian to mammalian rule of the earth. The dinosaurs were egg layers and, reptile like, left their eggs to be hatched by solar heat, and the young to shift for themselves. The appearance of a small, comparatively agile egg eater almost certainly helped to bring about the decline and eventual extinction of the lumbering monsters.

The opossum is the only marsupial native to America. The other members of the class live in Australia and on adjacent islands. They include the well known kangaroo as well as wombats, koalas, Australian opossums—a different family, bandicoots and others.

His nearest non-marsupial relative is the solenodon of Cuba and Hispaniola. This primitive creature is classed with the insectivorae, and looks like a cross between the opossum and shrew. This mixed-up resemblence is reflected in the Latin name of the Hispaniola species, *Solenodon paradoxus*.

The common opossum is native to most of the eastern half of the United States. He has been introduced into California. He thrives best in the Southeast, but is slowly moving northward. His natural range coincides very closely with that of his favorite fruit, the persimmon.

Besides eating persimmons, he is noted for playing 'possum, being the front end of a nighttime hunt, and getting roasted with sweet potatoes. Some people turn up their noses at the idea of eating opossum, while others consider it a treat.

His trick of playing dead is proverbial. Modern biologists believe he is not just kidding, but is actually knocked out by shock. No one knows for sure but the opossum, and he's not talking. It isn't clear how this bit of behavior helps the species. It may come from the fact that predators often cache part of a kill for later use, and that an old opossum and her brood of half-grown young, if the uneaten ones seemed dead, would be considered as a single kill. That's my personal guess. Or perhaps the opossum, like some other conservatives we know, is merely clinging to a custom that had a use or meaning in the dim, forgotten past.

The word opossum comes from the Algonquian language, meaning white animal. The color can vary, but is usually light gray. Some specimens are quite dark.

Didelphis virginiana—our common opossum—is the largest member of his order. The Texas opossum is smaller, and farther down in South America live members of the clan that are mouse-sized. Some of these have stowed away into U. S. ports on banana boats. Some of the South American species have taken to the water, where they are as much at home as otters or muskrats.

The opossum is one of the animals most often seen dead along the road. Baited to the highway by the bodies of previous victims, he becomes confused in the glare of headlights, and his favorite trick is no defense against automobiles. Drive carefully.

Br'er Possum is one of the wild creatures that seem to thrive in human neighborhoods. He will eat anything, and the presence of farm and orchard crops, nutritious garbage and carrion all help to keep him in groceries. His preferred bedroom is a hollow tree, but he will make out with the privacy of any dark cranny. The predators that used to limit his population have been thinned out. He is not hunted for sport nor trapped for his pelt as much as formerly. You can see him or his sign almost anywhere in forest or farmland, and even in cities. All in all he is doing quite well, and is apt to perpetuate his kind for another eon or two.

Mallard (Continued from page 9)

their pin feathers turn into real feathers. Eight weeks after birth they can fly, taking off directly from the water or land, and following behind the mother in a straight row. They look exactly alike, but when ten weeks old they begin a continuous molt of their juvenile plumage.

By winter they have grown the feathers of adults. The drakes have the beautiful bright dress of the father, the ducks the subdued coloring of the mother. Most are full-grown, strong and hard.

Some mallards begin to move southward early, but many are among the last of the waterfowl to migrate, lingering on until advanced winter freezes the water and warns them to be gone.

Instinctively, they know it will be a journey fraught with many dangers. Men will shoot them from the sky. Lighthouses will beckon them to death. Decoys will lure them down to dangerous waters where hunters, hidden in blinds, will take a toll.

Mallards stay together in small flocks of forty or fifty. They are found in nearly all parts of the northern hemisphere.

In China and many other thickly populated countries of Asia, wild mallards are an important food. Bred in domestication they live and thrive on many small canals as well as on natural waterways.

Economists think the mallard is the most important of the ducks. For countless years, it has furnished man great quantities of eggs, flesh, and feathers.

So! The little stranger in the backyard was the member of a large important family.

When the wild mallard had gotten tame enough to follow me from pen to pool and back again, my mother thought he could be turned loose in the barnyard.

By this time early winter had come. The mornings were cold and the frost was thick and white underfoot. The December sunrise cast a rosy glow over the barn and corncrib when I went to feed the fowls.

The mallard seemed to be at home with them, some of which were as colorful as he. The rooster's head and feathers were as showy, and his crow as compelling. The young toms, large as the parent birds, spread their tails and wings and strutted about, gobbling.

The mallard seemed small among the gobblers. I wondered if he would get his share of corn as I tossed it among them. I need not have worried. He did.

On the first warm day of the January thaw, the mallard disappeared. One of my brothers found him in the pasture field and brought him back to me.

With welcoming voice and caressing hands I tried to make the wild creature feel at home.

Again he seemed content with his tame companions in the barnyard, and with the small pools on which to swim and puddle.

But when the warm days came oftener, he disappeared for the second time. My brothers looked, but the drake could not be found.

Perhaps hearing the call of his wild kind winging their way north, he joined them, answering his inherent need for migration and mating.

Or, maybe he sought to find a happier place on his own.

I was impressed by this. Comfort and security were not enough. Some feeling of a destiny beyond the barnyard drove him forward, even with a weakened wing, into high skies and unseen lakes toward adventure and fulfillment.

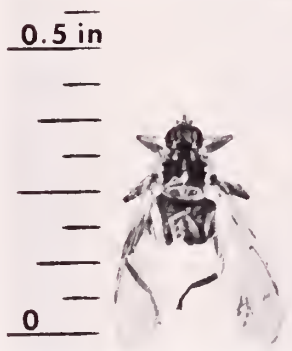
GROUSE "TICK" IN VIRGINIA

By T. G. NYE, PhD.
Department of Biology
Washington and Lee University

UNDOUBTEDLY the 1968-1969 ruffed grouse season in western Virginia was one of the finest in recent years. Birds were plentiful in Rockbridge County and surrounding areas, and hunter success indicated the relative abundance of this game bird throughout the state.

During the early part of the season, it was noticed, while cleaning a pair of grouse, that a small flying organism left each of the birds and escaped. Sometime later in the season, under similar circumstances, the same phenomenon occurred. In each case the birds had only one organism per bird—never more and never less.

Being a biologist I couldn't help but wonder what type of organism I had observed. Since the time I could devote to grouse hunting was being greatly reduced by my teaching position, I called upon Dr. Louis Hodges of Washington and Lee University to seek his assistance. Dr. Hodges, a teacher of religion, is an avid hunter, gunsmith, and sportsman and spends at least some time each year hunting grouse. I explained my observations and asked for his asistance in collecting specimens of this organism for purposes of identification. Dr. Hodges' interest was at least as avid as my own and upon leaving his office I felt assured that within a few days I would have the desired specimen.



Grouse "tick," more closely related to the house fly than to true ticks.

On January 16, 1969, I received a specimen of the "unknown" organism from Dr. Hodges and subsequently went to work on its identification. The specimen was found to be commonly called a "tick," although it was not a true member of the class *Arachnida* to which ticks, spiders and mites belong. The specimen (see illustration) is more closely related to the house fly and is, indeed, a flying member of the class *Insecta* known by the specific name of *Olfersia americana*.

Since this insect is in fact a parasite on the ruffed grouse, the question arises as to whether it may in any way influence the observed fluctuations in grouse populations. In other words, could this organism by itself or as a carrier of other more harmful organisms (bacteria, viruses, etc.) be a determining factor in the relative size of the grouse population? Thus far there is no evidence to substantiate a definite answer to this question.

The fluctuations in population density of the ruffed grouse are considered by C. H. Shaffer in the July, 1969, issue of *Virginia Wildlife*, and the possibility of disease is mentioned by the author.

There is no indication thus far of how widely spread this insect may be among the grouse population of Virginia. It may be worth observing over the next few years by game biologists and game management officials to determine what role, if any, it may have in influencing population changes.

Home Thoughts (Continued from page 5)

and greenish yellow feet—surely a snowy egret or a close relative. A few are different, off-white with patches of brown on head and back. These feed among the domesticated water buffalo, sometimes perching on their backs; they have to be cattle egrets. Other herons, less numerous or perhaps only better camouflaged, resemble the great blue. There are at least two species of bitterns, one large and the other no bigger than a little green heron.

Swallows are abundant, perhaps because of the seemingly inexhaustible insect supply. One species, blue-black on top, white below, with a bona fide swallow tail, resembles a barn swallow. *Birds of the Philippines*, by Delacour and Mayer, is my closest approach to a Vietnamese guide; it lists the barn swallow as a winter visitor to the Philippines from Japan and Siberia. My swallows can well be that species. They swoop in and out of the wide doors of the aircraft hangars—king size barns, possibly, from their point of view.

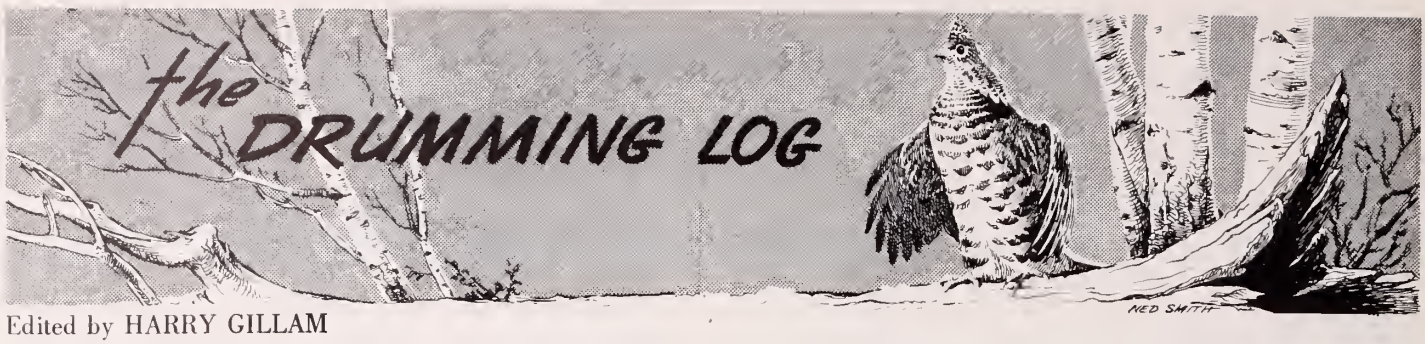
Swifts, too, are numerous. They are among the highest fliers. Our helicopters cruise at 1500 feet or higher to avoid small arms fire from the Viet Cong. From the cockpit one sometimes sees swifts at the same altitude. Delacour and Mayer record that the Philippines are "rich in swifts, no fewer than 12 species." Vietnam must be well supplied also. I cannot identify the species, but the cigar shaped body and slim curved wings are strongly reminiscent of an Old Dominion chimney swift.

Particularly in the U Minh Forest of the southern Delta, hawks are plentiful. They seem to include harriers, kites, and some species of buteo. One is particularly striking. About the size and shape of a red shouldered hawk, but with a longer, narrower tail, it is a rich chestnut red on wings and tail, clear white on head and breast. The *Philippine Guide* lists the Braminy kite, *haliastur indus*, with a similar pattern. Its range is given as India to the Solomon Islands, including the Indo-Chinese countries. One frequently sees this red and white hawk along the rivers and canals, swooping to pick up a fish or scrap of garbage discarded by the troops. According to the guide, the Braminy kite frequents "lowland rivers and coastal clearings. . . . Feeds on refuse from ships, garbage, carrion, fish, crabs, insects and lizards. Its graceful flight, with rapid turns, is diagnostic." So reassured, I add *haliastur indus* to my life list.

Kingfishers, brilliantly colored, come in several sizes and shapes. Like the swifts, I can only put them down as "some species of kingfisher." Each suggests a belted kingfisher rattling over a Piedmont run. For a moment the palms turn to beeches and hickories, the Mekong to the Rivanna.

Scratching in the dusty roads and dooryards is a small finch with a familiar look. At first one takes it to be an English sparrow. Closer examination shows a brownish crown and a black spot behind the eye—the tree sparrow, *passer montanus*, looking exactly like its picture in Peterson's U. S. bird guide.

Sandpipers feed in the muddy river banks at low water; a tiny grebe, smaller even than the pied-bill, swims in the narrow canals. Conspicuous black and white storks fly high; one sometimes looks up from a helicopter and sees them overhead at two thousand feet. Terns dive into the muddy waters and emerge with minnows in their bills. Some of the birds are reminders of home; others, exotic curiosities. For a few seconds or a few minutes each takes one's mind off the war. Then home thoughts from abroad fade away, and the war goes on.



Edited by HARRY GILLAM

Professional Trapper Teaches Amateurs Tricks of the Trade

Game Commission Predator Trapper Supervisor Gerald Blank, standing on right, gives a demonstration of making a dirt hole fox set at the annual Virginia Trappers Association meeting at Smith Mountain Lake. The meeting drew over 200 persons from around the state. Blank has assisted the group in sharpening their skills over the past several years.

For a Different Vacation

Sixty-seven camping trips in outstanding wilderness areas will be sponsored by The Wilderness Society this year in the 17th annual "A Way to the Wilderness" program.

Designed to give outdoor enthusiasts a richer understanding of our wilderness heritage, the trips will take participants into unspoiled wild country in 14 states and Canada.

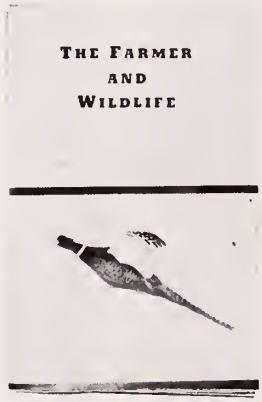
New this year in the non-profit program are snowshoe trips scheduled for February, April, and December in Rocky Mountain National Park, Colorado. And in addition to many western trips, the Society is sponsoring five outings in the East. These will be two canoe trips in Everglades National Park, Florida, in March and April; a May backpacking trip in Great Smoky Mountains National Park, North Carolina—Tennessee; and two backpack outings in June and August in New York's Adirondacks.

Trips run from five to 12 days, in most cases with a maximum of 10 to 18 trip members. An experienced trip director and a physician accompany each party, and a professional outfitter takes responsibility for setting up camp, preparing food, and providing riding and pack horses and major equipment. Cost ranges from $85 to $120.

The Wilderness Society, a non-profit organization with headquarters in Washington, D. C., was established in 1935 to foster protection of America's roadless wilderness areas. Through its work with interested citizens across the country, it is supporting expansion of the National Wilderness Preservation System created in 1964 by act of Congress.

Descriptive literature on the 1970 "A Way to the Wilderness" trips and application forms are available from Boyd Norton, Western Regional Office, The Wilderness Society, 5850 East Jewell Avenue, Denver, Colorado 80222.

Farmer's Wildlife Management Guide



A revised and up-dated edition of THE FARMER AND WILDLIFE by Durward L. Allen, the Wildlife Management Institute's classic know-how guide to wildlife habitat improvement on small areas, has just been released. Many thousands of the earlier edition of this booklet have been distributed since it was first printed in 1949. It has received wide use by farmers, sportsmen's organizations, and youth groups who wish to improve conditions for wildlife on their lands.

The booklet covers all types of terrain from forests to wetlands and odd corners around the farm that can be made to produce a wildlife crop. The cover and food manipulations described for the most part do not interfere with the normal farming operation. Actual aerial photos of farms before and after wildlife enhancement show how to adapt the techniques described to varying conditions. Single copies may be obtained by writing to the Wildlife Management Institute, Wire Building, Washington, D. C. 20005.

Handsome Chesterfield Buck

Frankie Hancock downed this 195 pound 10 pointer on the first Saturday of the hunting season in Chesterfield County.

Big Spotsylvania Rack

Milton D. Horsman bagged this massive 14 pointer on opening day in Spotsylvania county. His son got his first deer, a spike, the same day.

Edited by ANN PILCHER

Conservation Club members inspect one another's patches. From left: Louise Ridgeway, Kenny Neff, Michael Snapp, Mary Frye, and David Dailey.

Planting and Poster Contests

Four of the nine Stafford County Junior Wildlife Food Plot contestants were honored in January at the dinner meeting of the Fredericksburg-Rappahannock Chapter, Izaak Walton League, contest sponsors. Two of these, Bettina and George McWhirt, are pictured at right with Extension Agent Richard Beck, who—with game warden Stuart Doggert and the Soil Conservation Service's Gordon Linkous—judged the patches. Keith and Douglas Crocker were the other two 'Blue" awards winners, and all four youngsters are Hartwood 4-H Club members.

Last year the 4-H Conservation Club in Frederick County sponsored two contests which presented county 4-H'ers with an opportunity to take an active part in conservation. The first of these was a WILDLIFE FOOD PATCH Planting Contest in which approximately twenty boys and girls participated. At the close of the school year, contestants planted a game bird seed mixture, supplied by the Virginia Game Commission, in 1/8 to 1/4 acre plots of idle land where the mixture could not be grazed, but where it would be utilized to its maximum potential by wildlife.

During the summer, club members visited the various plots for progress checks. In early September the plots were inspected for final judging by Mr. Dave Ramsey, Area Game Warden, Mr. Paul T. Moore, Soil Conservation Service, and Mr. Edward M. Conklin, Extension Agent, Agriculture. They were evaluated on the basis of percentage germination and survival, in addition to management practices and utilization by wildlife.

Louise Ridgeway of the North Mountain Go-Getters 4-H Club planted the winning plot, for which she received a $50 savings bond. Second place and a $25 savings bond was awarded to Michael Snapp of the Mt. Airy 4-H Club. Third place and a $15 cash award went to Mary Frye, also of the Mt. Airy club. In addition, all of the participants received subscriptions to *Virginia Wildlife*. These awards were made possible through the contributions of the Winchester-Frederick County Izaak Walton League and the Gainesboro Ruritan Club, and were presented at the county's achievement night program.

More recently completed by the 4-H Conservation Club, the CONSERVATION POSTER CONTEST had 30 entries. Contest purpose was to publicize the need for wise use of natural resources and to broaden participants' working knowledge of this field by constructing educational posters along these lines. First, second and third place winners in the various age groups received leather wallets, 4-H bookends, and Audubon bird calls, respectively: *9-11 years*—Alice Tate, Margaret Cooper, John Cooper; *12-14 years*—Charmayne Moler, Frank Fogle, Kaye Ritter; *15 and above*—Barbara Fogle, Cindy Ramey, Josie Triplett. In addition, each boy and girl received a 4-H address book in recognition of his participation in the contest.

These two activities of the Conservation Club, which is composed of former delegates to the State 4-H Conservation Camp, have been very effective in helping the boys and girls "learn by doing."

Edward M. Conklin
Winchester

January: September Trophies

Thomas Wayne Worley (5) of Chatham felled his squirrel with a .22 rifle on the second shot. Cindy McClure's 4 lb. largemouth, taken on plastic worm from her Woodbridge pond, measured 19 inches.

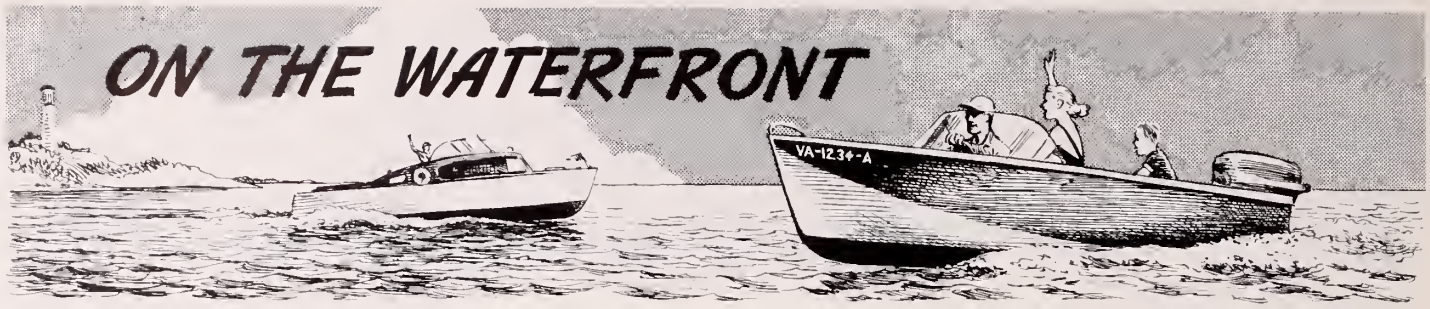
Courtesy Dumfries *Potomac News*

Bullpasture Buck

Richard Washburn, Alexandria Hayfield High 10th grader, killed his first buck last November on his first hunting trip with his dad, Cawin L. Washburn of Lorton. The 8 pointer, weighing 160 lbs. dressed, was killed at about 100 yards with a 308 Winchester on Bullpasture Mt. in Highland County.

Citation Catch

Jamie Street, 11, of Grundy, holds the rainbow trout he took in November from Whitten Farm pond in Tazewell County. Young Brother Marty seems impressed with the lunker landed on artificial worm. Jamie excitedly described his catch: "It weighs 24 (and 3/4) inches and is six pounds long."



Edited by JIM KERRICK

It's Outboard Tune-Up Time

That more or less fabled disease, spring fever, and its allied germ, the boating bug, is about to come out of hibernation. Outboard skippers throughout the country are beginning to get symptoms of the disease and realize that it is time to get the old kicker ready for another season of duty.

It's really a rather simple procedure, especially if you were a good boatman last fall and winterized that outboard motor the way you should have.

All that is needed to get things going is a basic tool kit, your owner's manual, and a little basic know-how. If you have an owner's manual, it is a valuable source of information on all facets of keeping your motor in shape.

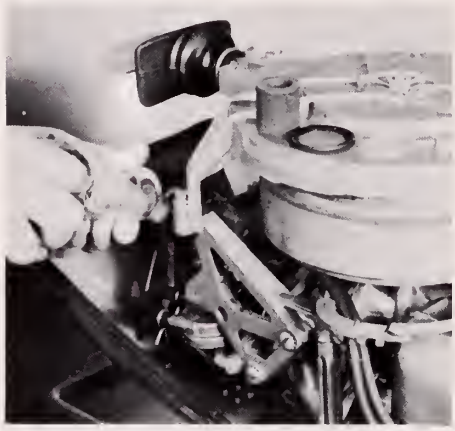
Photos courtesy Evinrude Motors

Clean or replace spark plugs. Check all electrical wiring and spark plug connectors.

Actually, if your motor was given a tune-up late last season, you have little to do. Give it a good visual check for loose screws or damaged or worn parts. Pull the motor over slowly with the starter rope to be sure that the powerhead is unobstructed. Check the coolant pump operation by running the motor at half throttle, and observe for discharge of water from the water outlet after the motor has warmed up.

But chances are, you were like a vast majority of outboarders, and figured last summer that you wouldn't do anything until after the season. In that case, Spaeth recommends a simple check list:

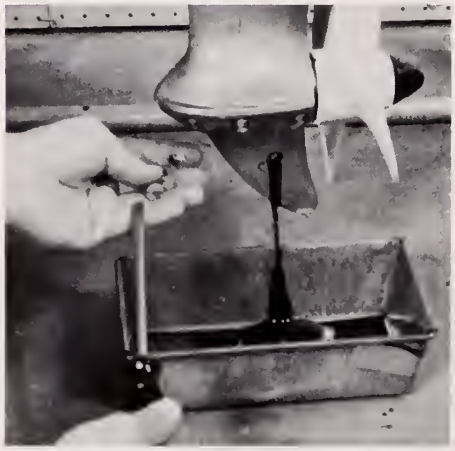
Spark plugs that are fouled or worn should be cleaned or replaced. Bad plugs can cause poor performance and hard starting.



Clean entire fuel system to include gas tank.

A good visual inspection should be made of all electrical wiring and spark plug connectors. Electrician's tape can be used to repair cracked or worn areas. Obviously bad wiring should be replaced.

The entire fuel system may be cleaned to assure that there is no residue of gummy deposits left from fuel used last season. The fuel bowl on the carburetor, the fuel filter and the fuel tank should all get attention. Acetone or lacquer thinner will remove deposits. If there was fuel left in the tank last fall, it should have been emptied. If it was not, empty this spring and replace with new, clean fuel.



Change and replace oil and grease in lower unit.

The owner's manual indicates that there are a few places on your outboard that require lubrication. Follow directions as outlined in the manual.

Like changing oil on your automobile, the oil in the lower unit of your outboard should be changed, if it wasn't done last fall. If there is any sign of water in the lower unit oil, it indicates a leak that could lead to serious problems. Consult a marine dealer if this condition is present. Use the lubricant recommended by the manufacturer to refill the lower unit.

The propeller is the working part of your outboard. It it is damaged, it can rob the motor of performance and fuel economy. Usually a visual check will tell if the prop needs replacement. If it has bad nicks or is bent, get a new one and carry the old one as a spare.

Replace a damaged prop. Keep the old prop as a spare.

You may consider touching up scratches and worn spots with touch-up paint. Spray cans of matching paints are available, and they are easy to apply. Use an automotive-type wax to bring the motor to a high gloss after touch-up paint dries.

Leave any work more complicated than the check points mentioned to a qualified marine dealer. Care for your outboard, and it will care for you.

Swallow-tailed Kite

Bird of the Month:

By DR. J. J. MURRAY
Lexington

WE have only a few Virginia records for this striking bird. There was a Virginia specimen, a bird shot near Salem by P. D. Coon and shown to Dr. Ellison A. Smyth. Whether it is still in existence I do not know.

Dr. Smyth was in the Biology Department of the Virginia Polytechnic Institute from 1891 to 1925. After his retirement he moved to a farm near Salem, where he had a small museum, with an extensive collection of moths and a good collection of bird skins. He was a nationally known authority on hawk moths. Dr. Smyth died at Salem on August 19, 1941.

Audubon stated that he found the swallow-tailed kite in Virginia "in very small numbers." David Barclay, formerly of Lexington, told me that near Lexington in the summer of 1890 he saw two of these birds, which remained for some time. Arthur Cleveland Bent, in his monumental *Life Histories of North American Birds of Prey* (U .S. Government printing Office, 1937, Bulletin 167, pages 44-53), describes the nesting and food habits of this fine bird.

Bent reports one observed near Aylett, King William County, on August 31, 1895. One was seen by Dr. Paul Bartsch on the Virginia side of the Potomac near Washington on April 11, 1897. There are probably other records in addition to these. Robert E. Stewart and Chandler Robbins give it as a casual visitor to Maryland, listing three specimens collected. Bent described the nesting and food habits of this fine bird.

As its name indicates, this kite is shaped like a huge swallow. Its head and neck, rump and underparts, are white. The back and wings and tail are black. The tail is 13 to 15 inches long, and deeply forked. The wings reach a length of nearly 18 inches. Appearing in flight like a huge swallow, it is well named "swallow-tailed." I know of no more handsome and graceful bird in the air. I have never tired of watching them over the prairies in Florida, where they are still fairly common.

The nest is placed very high, most of them around 90 feet, and some up to 130 feet. These nests run up to 20 inches across, with the inside hollow 6 inches across and 4 inches deep. In places the birds have to do an immense amount of traveling to bring this material to the nesting site. Two eggs, occasionally three, are laid. With a creamy base color, these eggs are generally marked heavily with brown shades.

The food of this kite is very varied, including lizards, small snakes, frogs, and many kinds of insects. Bent states that most of its food is caught and eaten on the wing.

Seen any wildlife lately?

National Wildlife Week 1970

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